

Data User Guide

GPM Ground Validation Campaign Reports OLYMPEX

Introduction

The GPM Ground Validation Campaign Reports OLYMPEX dataset consists of flight reports, weather forecasts, instrument reports, scientist summaries, and plan-of-day reports collected during the Global Precipitation Measurement (GPM) Olympic Mountains Experiment (OLYMPEX) field campaign to help support the ground validation of the GPM. These campaign reports were collected during the intense operating period which occurred during November 2015 to February 2016. The various campaign reports are available in PDF, JPG, PNG, and Microsoft Powerpoint and Word formats, some of which are located within tarred data files.

Citation

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Keywords:

NASA, GHRC, Washington, OLYMPEX, campaign reports, instrument reports, mission science reports, weather forecasts, flight reports, plan-of-day reports

Campaign

The Global Precipitation Measurement (GPM) mission Ground Validation campaign used a variety of methods for validation of GPM satellite constellation measurements prior to and after launch of the GPM Core Satellite, which launched on February 27, 2014. The instrument validation effort included numerous GPM-specific and joint agency/international external field campaigns, using state of the art cloud and precipitation observational infrastructure (polarimetric radars, profilers, rain gauges, and disdrometers). Surface rainfall was measured by very dense rain gauge and disdrometer

networks at various field campaign sites. These field campaigns accounted for the majority of the effort and resources expended by GPM GV. More information about the GPM mission is available at <https://pmm.nasa.gov/GPM/>.

One of the GPM Ground Validation field campaigns was the Olympic Mountains Experiment (OLYMPEX) which was held in the Pacific Northwest. The goal of OLYMPEX was to validate rain and snow measurements in mid-latitude frontal systems as they move from ocean to coast to mountains and to determine how remotely sensed measurements of precipitation by GPM can be applied to a range of hydrologic, weather forecasting, and climate data. The campaign consisted of a wide variety of ground instrumentation, several radars, and airborne instrumentation monitoring oceanic storm systems as they approached and traversed the Peninsula and the Olympic Mountains. The OLYMPEX campaign was part of the development, evaluation, and improvement of GPM remote sensing precipitation algorithms. More information is available from the NASA GPM Ground Validation web site <https://pmm.nasa.gov/olympex> and the University of Washington OLYMPEX web site <http://olympex.atmos.washington.edu/>.



Figure 1: OLYMPEX Domain
(Image Source: <https://pmm.nasa.gov/OLYMPEX>)

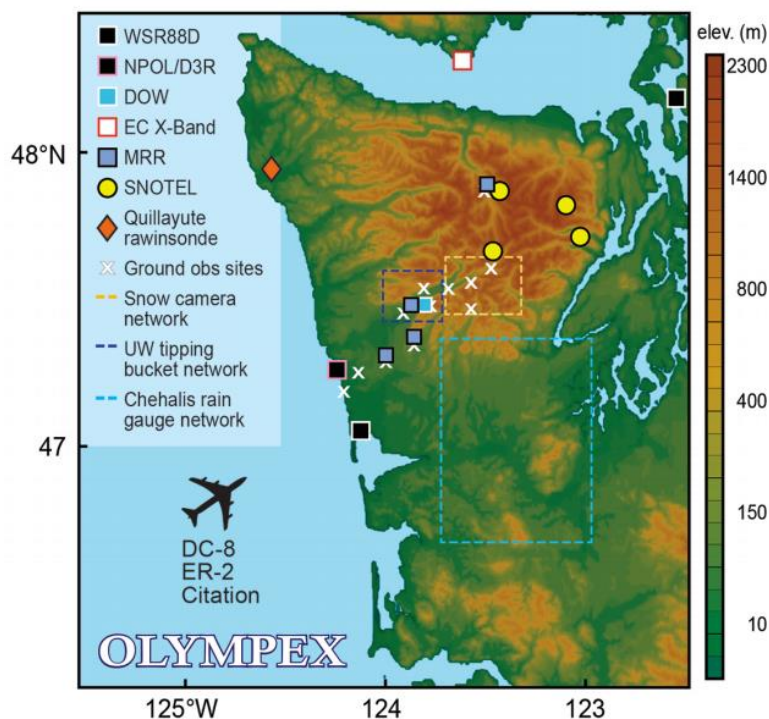


Figure 2: OLYMPEX Field Locations
(Image Source: <https://pmm.nasa.gov/OLYMPEX>)

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Data Characteristics

The GPM Ground Validation Campaign Reports OLYMPEX dataset consists of various campaign reports in PDF, JPG, PNG, and Microsoft Powerpoint and Word formats, some reports are located within tarred data files. These reports are considered Level 0 products. More information about the NASA data processing levels are available on the [NASA Data Processing Levels website](#).

Each report describes some aspect of the campaign produced at regular intervals (mostly daily). There are weather forecasts, scientist summaries, instrument operation reports, flight reports (only available on flight days), and daily plan-of-day reports consisting of operations status and future plan summaries.

File Naming Convention

The GPM Ground Validation Campaign Reports OLYMPEX dataset file names have the following six file naming conventions:

Flight Reports: olympex_[DC-8|ER-2|UND-Citation]_<start time>_<end time>.pdf

Weather Forecast Reports: olympex_wxbriefing_YYYYMMDDhh*.tar

Instrument Reports: olympex_inst_<report time>_<submission time>.[pdf|tar]

Scientist Reports: olympex_YYYYMMDDScience_summary.pdf

Plan of Day Reports: olympex-POD-<report time>_<submission time>.pdf

Table 1: File naming convention variables

Variable	Description
[DC-8 ER-2 UND-Citation]	Type of aircraft flown
<time>	time in YYYYMMDDhhmm format YYYY: Four-digit year MM: Two-digit month DD: Two-digit day hh: Two-digit hour in UTC mm: Two-digit minute in UTC
.pdf	Portable Document Format
YYYY	Four-digit year
MM	Two-digit month
DD	Two-digit day
hh	Two-digit hour in UTC
*	Some weather forecast report files will have a ‘_dryrun’ indicating that the weather briefing was a practice run
.tar	Tape ARchive file format
inst	Instrument acronym: 2DVD, AMPR, APR3, CoSMIR, D3R, MASC, NPOL, PIP, 2DC, 2DS, CDP, CPI, CSI, HVPS-3, KingHotWireProbe, Nevzorov, RICE, StateParameters, MRR, Parsivel, Pluvio, DualTippingGauge, HotPlate

Data Format and Parameters

The GPM Ground Validation Campaign Reports OLYMPEX dataset consists of flight reports, weather forecasts, instrument reports, scientist reports, and plan-of-day reports in PDF, JPG, PNG, and Microsoft Powerpoint and Word formats, some are located within tarred data files. All files contain text and images as needed to convey the information in the report. No special software is needed to read these reports.

Related Data

All data from any instrument collected during the OLYMPEX field campaign are related to this dataset. OLYMPEX field campaign data can be located using the GHRC HyDRO 2.0 search tool.

Contact Information

To order these data or for further information, please contact:

NASA Global Hydrology Resource Center DAAC

User Services

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